CLAIMS

1. A coating composition for the formation of an inorganic layer on the surface of a substrate, comprising at least

- an efficient amount of photocatalytic titanium dioxide particles,
- an opacifying agent,
- particles of an inorganic binder,
- an organic binder, and
- a solvent,

wherein said organic binder and photocatalytic titanium dioxide particles are present in a weight ratio, photocatalytic titanium dioxide/organic binder ranging from 0.1 to 6.

2. The coating composition according to claim 1, wherein the organic binder is selected in the group of copolymers styrene/butadiene and polymers and copolymers of acrylic esters.

3. The coating composition according to claim 1 or 2, wherein the organic binder is selected from the group consisting of polyvinylacrylic and copolymers of styrene/(meth)acrylic esters.

4. The coating composition according to anyone of claims 1 to 3, wherein the organic binder is present in a weight ratio of photocatalytic TiO_2 particles/organic binder ranging from 0.3 to 4.5 and in particular from 0.5 to 3.6.

5. The coating composition according to anyone of claims 1 to 4, wherein the photocatalytic titanium dioxide particles are anatase, rutile or mixtures thereof.

6. The coating composition according to anyone of claims 1 to 5, wherein the photocatalytic titanium dioxide particles include crystalline anatase-type titanium dioxide.

7. The coating composition according to claim 6, wherein the crystalline titanium dioxide particles exhibit a mean size of between 5 and 80 nm, in particular of between 5 and 50 nm, more particularly still of between 10 and 40 nm.

8. The coating composition according to anyone of claim 1 to 7, wherein the photocatalytic titanium dioxide particles are present in an amount ranging from 0.5 to 20%, and preferably from 1 to 15%, more specifically from 3 to 12% by weight of the total composition.

9. The coating composition according to anyone of claims 1 to 8, wherein the inorganic binder includes at least an amorphous metal oxide, selected from the group consisting of alkali silicates, alkali aluminates, alkali zirconates, alkali borates, alkali phosphates, alkali phosphonates and their mixtures.

10. The coating composition according to anyone of claims 1 to 9, wherein the inorganic binder contains at least one alkali metal silicates, in particular potassium silicate, sodium silicate, and/or lithium silicate.

11. The coating composition according to claim 10, wherein the concentration of the alkali metal silicate is 0.5 to 35% by weight, in particular 1 to 30% by weight, more particularly 2 to 25% by weight on a solid basis.

12. The coating composition according to anyone of claims 1 to 11, furthermore including non photocatalytic TiO_2 particles.

13. The coating composition according to anyone of claims 1 to 12 wherein the solvent is at least water.

14. The coating composition according to anyone of claims 1 to 13 as a silicate emulsion paint.

15. A process for providing a depolluting and/or soil cleaning coating on a substrate, comprising at least the steps of:

- applying a coating composition according to anyone of claims 1 to 14 onto a surface of the substrate to form a coating, and
- fixing the coating to obtain an inorganic layer on the surface of the substrate.

16. A process for preventing and/or treating mildew, mold, algae and/or bacteria on a substrate comprising at least the steps of :

- applying a coating composition according to anyone of claims 1 to 14 onto a surface of the substrate to form a coating, and
- fixing the coating to obtain an inorganic layer on the surface of the substrate.